

REMARKS

This application has been amended in a manner that is believed to place it in condition for allowance at the time of the next Official Action.

Claims 1-6 are pending in the present application. Support for amended claim 1 may be found in the present specification at page 2, lines 15-25.

In the outstanding Official Action, claims 1, 3 and 4 were rejected under 35 USC §103(a) as allegedly being unpatentable over OSTRANDER et al. 6,240,970 in view of FUKUSHI 2003/0087053 and KODAMA et al. 5,937,911. That rejection is respectfully traversed.

Applicants believe that the proposed combination of publications fails to render obvious the claimed invention. As the Examiner is aware, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or knowledge generally available to one of ordinary skill in the art, to modify the reference or combined reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art references must teach or suggest all of the claimed limitations. The teaching or suggestion to make the claimed combination and a reasonable expectation of success must both be found in the prior art and not based on

applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

The present invention provides a hose for transmitting a fluid containing hydrogen, comprising from the inside towards the outside:

- 1) a layer comprising a fluorine-based thermoplastic material;
- 2) a layer comprising a vinyl ethylene alcohol; and
- 3) a layer comprising a polybutylene terephthalate.

A hose made in this way is lighter in weight, more flexible, and less expensive than an equivalent pipe made of steel. Moreover, the hose provides an improved barrier function to hydrogen and oxygen.

OSTRANDER et al. disclose two principal types of fuel pipes. According to the first embodiment, the pipe comprises (Figure 1) an internal layer of polyamide (14), an intermediate layer of polyethylene (24), and an external layer (18) of polyamide, polypropylene or a thermoplastic elastomer. In a second embodiment, the pipe comprises an internal layer (14) of fluorine polymer, an intermediate layer (16) of EVOH, an external layer (18) of polyamide, and an outer jacket (12) of thermoplastic elastomer. However, while the OSTRANDER et al. publication discloses several combinations of materials, none of the combinations are in accordance with the claimed invention.

In an effort to remedy the deficiencies of the OSTRANDER et al. publication, the outstanding Official Action cites to FUKUSHI. FUKUSHI discloses a fuel pipe comprising an internal layer of fluorine elastomer, an intermediate layer of EVOH, and an external layer of thermoplastic elastomer, polyolefin, or polyester. However, neither the OSTRANDER et al. publication nor the FUKUSHI publication discloses or suggests the claimed hose for transporting a fluid containing hydrogen.

Thus, in yet another effort to remedy the deficiencies of the above-identified publications, the outstanding Official Action cites to KODAMA et al.

KODAMA et al. disclose a fuel pipe comprising a layer of fluorine thermoplastic material and a layer of polyamide or polybutylene terephthalate. However, upon reviewing the OSTRANDER et al., FUKUSHI, and KODAMA et al. publications, applicants believe that one of ordinary skill in the art would lack the motivation to combine and modify the teachings of these publications to obtain the claimed invention. The pipes disclosed by the above-identified publications are designed to transport fuels which contain hydrocarbons.

Therefore, those publications teach that at least some of the mentioned materials are resistant to permeation by hydrocarbons. However, it does not mean that those materials are resistant to permeation by hydrogen due to the chemical and physical differences existing between the hydrogen and the

hydrocarbon molecules. As a result, should a man skilled in the art want to design a pipe for transporting fluids containing hydrogen, he would not be motivated or inclined to combine and modify the teachings of OSTRANDER et al., FUKUSHI, and KODAMA et al.

Indeed, as set forth in *In re Kotzab*, 217 F.3d 1365, 1369-70, 55 USPQ2d 1313, 1316 (Fed. Cir. 2000) (citations omitted):

A critical step in analyzing the patentability of claims pursuant to section 103(a) is casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, guided only by prior art and the then-accepted wisdom in the field. [] Close adherence to this methodology is especially important in cases where the very ease with which the invention may prompt one "to fall victim to the insidious effect of a hindsight syndrome wherein that which only the invention taught is used against its teacher.

...[T]o establish obviousness based on a combination of the elements disclosed in the prior art, there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the applicant.

As none of the publications, alone or in combination with each other, direct or suggest to one skilled in the art the combination of layers as claimed, applicants believe that the proposed combination of OSTRANDER et al., FUKUSHI, and KODAMA et al. fails to render obvious the claimed invention.

Claim 2 was rejected under 35 USC §103(a) as allegedly being unpatentable over OSTRANDER et al. in view of FUKUSHI and KODAMA et al., and further in view of BLASKO et al. 2002/0134451.

Claims 5 and 6 were rejected under 35 USC §103(a) as allegedly being unpatentable over OSTRANDER et al. in view of FUKUSHI and KODAMA et al., and further in view of NISHINO et al. 6,089,278. These rejections are respectfully traversed.

As noted above, the proposed combination of OSTRANDER et al. in view of FUKUSHI and KODAMA et al. fails to render obvious the claimed invention. As BLASKO et al. and NISHINO et al. both fail to provide the motivation to one of ordinary skill in the art to combine and modify the cited publications to obtain the claimed hose for transporting fluid, applicants believe that BLASKO et al. and NISHINO et al. both fail to remedy the deficiencies of OSTRANDER et al. in view of FUKUSHI and KODAMA et al. Thus, in view of the above, applicants request that the rejections be withdrawn.

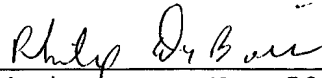
In view of the foregoing remarks, therefore, applicants believe that the present application is in condition for allowance at the time of the next Official Action, with claims 1-6, as presented. Allowance and passage to issue on that basis is respectfully requested.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any

overpayment to Deposit Account No. 25-0120 for any additional
fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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